WE CLAIM:

A switchable optical add/drop device comprising:

a DWDM R-channel assembly;

a collimator assembly; and

a switching device removeably positioned therebetween so as to

optionally perform a by-pass mode or an add/drop function.

2. The device as defined in claim 1, wherein said R-channel assembly includes first and second R-channels spatially opposite to each other.

The device as defined in claim 2, wherein the first R-channel includes a first GRIN lens, the first DWDM filter, and a first fiber connected to an IN port of said first R-channel, and the second R-channel includes a second GIM lens, a second DWDM filter, and a second fiber connected to an OUT port of said second R-channel.

4. The device as defined in claim 3, wherein said first R-channel and said second R-channel are structurally the same.

5. The device as defined in claim 4, wherein said first R-channel and said second R-channel are face to face disposed with each other with said first filter and said second filter confronting each other.

6. The device as defined in claim 4, wherein a first path is defined between the first filter and the second filter for passage of the filtered wavelength channel.

7. The device as defined in claim 4, wherein a second path is defined between said first R-channel and said second R-channel, said second path being connected to the first R-channel on the same side of the IN port and to the second R-channel on the same side of the OUT port.

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- 8. The device as defined in claim 1, wherein the collimator assembly includes first and second collimator respectively defining ADD and DROP ports.
- 9. The device as defined in claim 1, wherein said switching device is a prism.
- 10. The device as defined in claim 1, wherein said prism blocks signal ways of the R-channel assembly and of the collimator assembly and forms the switchable paths therein for switching.
- 11. A switchable optical add/drop device comprising:
 first and second DWDM R-channels functioning as IN and OUT
 ports, respectively;

first and second collimators functioning as ADD and DROP ports, respectively; and

a switching device removably disposed among said first and second R-channels and said first and second collimators so that the device functions as a switchable add/drop device with existence of the switching device while functions as a by-pass mode with removal of said switching device.

- 12. The device as defined in claim 11, wherein said first and second DWDM R-channels are substantially structurally same with each other each with a GRIN lens and a DWDM filter for the same specific wavelength channel.
- 13. The device as defined in claim 11, wherein said first R-channel and said first collimator are arranged on one side of said switching device,
 25 and the second R-channel and said second collimator are arranged on the other side of said switching device.



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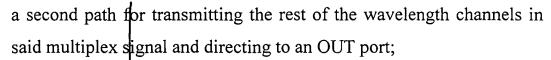
14. The device as defined in claim 13, wherein said switching device is a prism.

- 15. A method of optionally switchably adding/dropping channels of a signal, comprising the steps of:
- (1) providing first and second R-channels spatially opposite to each other, said first R-channel defining an IN port and said second R-channel defining an OUT port;
- (2) defining a first path between two near ends of said first and second R-channels, and a second path between two far ends of said first and second R-channels;
- (3) providing first and second collimators with ADD and DROP ports, respectively; and
- (4) removably positioning a switching device among said first and second R-channels and said first and second collimators for blocking the first path as a switchable optical add/drop device or for not block the first path as a by-pass mode.
- 16. The method as defined in claim 15, wherein said switching device defines two switching path respectively guiding a filtered wavelength channel from the first path and an added wavelength channel from the first collimator.
- 17. The method as defined in claim 15, wherein said first and second R-channels are substantially structurally the same with the same filter thereof for the same specific wavelength channel.
- 18. An arrangement of switchably adding/dropping wavelength channels
 with regard to a multiplex signal, comprising:
 a first path for transmitting a specific wavelength channel;

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- a third path for either switching the filtered specific wavelength channel in the first path to a DROP port or adding the specific wavelength channel from an ADD port to the first path.
- 19. The arrangement as defined in claim 18, wherein said first path is defined between two near ends of first and second R-channels, and said second path is defined between two far ends of said first and second R-channels.
- 20. The arrangement as defined in claim 18, wherein said third path is defined by a switching device.
- 21. A subassembly of a switchable optical add/drop device comprising:
 a first R-channel including a first GRIN lens and a first DWDM filter;
 a first fiber connected to the first GRIN lens opposite to the first DWDM filter and functioning as an IN port;
 - a second R-channel including a second GRIN lens and a second DWDM filter;
 - a second fiber connected to the second GRIN lens opposite to the second DWDM filter and functioning as an OUT port;
- said first R-channel and said second R-channel being face to face disposed with each other with the first filter and the second filter confronting each other;
 - a first path defined between the first filter and the second filter; and a second path defined between the first GRIN lens and the second GRIN lens around the IN and OUT ports; whereby

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said subassembly may cooperate with a removable switching device to switchably add/drop the specific wavelength channel or perform a by-pass mode with minimum insertion loss.

- 22. The subassembly as defined in claim 20, wherein said first filter and said second filter are same.
- 23. The subassembly as defined in claim 20, wherein said first R-channel and said second R-channel are substantially structurally same with each other.